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MISSOURI DEPARTMENT OF NATURAL RESOURCES

MEMORANDUM

S00048594
SUPERFUND RECORDS

Date: April 7, 1983

To: Paul Meiburger, WMP

From: Burt McCullough, SRO REM THRU: John Nixon

Subject: Dugan and Helterbrand, Inc.; Marshfield, MO

On April 4, 1983, I visited the facilities of Dugan and Helterbrand at Marshfield, Missouri to give technical assistance and try to determine the compliance status of the company. Dugan and Helterbrand recovers silver from waste photographic film. They acquire the film from sources such as hospital radiology labs and large photograph processors. These generators would probably be classified as small quantity hazardous waste generators. Upon receiving the film, Dugan and Helterbrand shreds the film into chips 1/4-inches to 1/2-inches in diameter. These chips are then placed (by hand) into concrete tanks. The chips are immersed in a 10% sodium cyanide solution which is pH adjusted with sodium hydroxide to prevent the generation of hydrogen cyanide fumes. The tanks are then covered with wooden lids and vented through a sodium hydroxide scrubber system prior to atmospheric discharge. The liquor is then pumped to plating tanks for the removal of silver. After having plated out the silver, the liquor is recycled to another stripping tank. No wastewater is discharged. The stripped chips are washed with water, then sprayed with a 10% sodium hypochlorite solution to convert any remaining cyanides to cyanate. The chips are then shoveled out by hand and hauled to the Webster County landfill near Marshfield. No laboratory testing is performed to insure that no cyanides remain. It is assumed that excess chlorine is added. The attached flow chart depicts the process. Dugan and Helterbrand is currently operating eight tanks on a rotating basis. A building has been constructed which is intended to house ten additional tanks. Laboratory analyses are pending to determine whether or not the spent film chips are a hazardous waste. About 4,000 to 8,000 pounds per day of chips are generated.

In terms of RCRA compliance I noted the following:

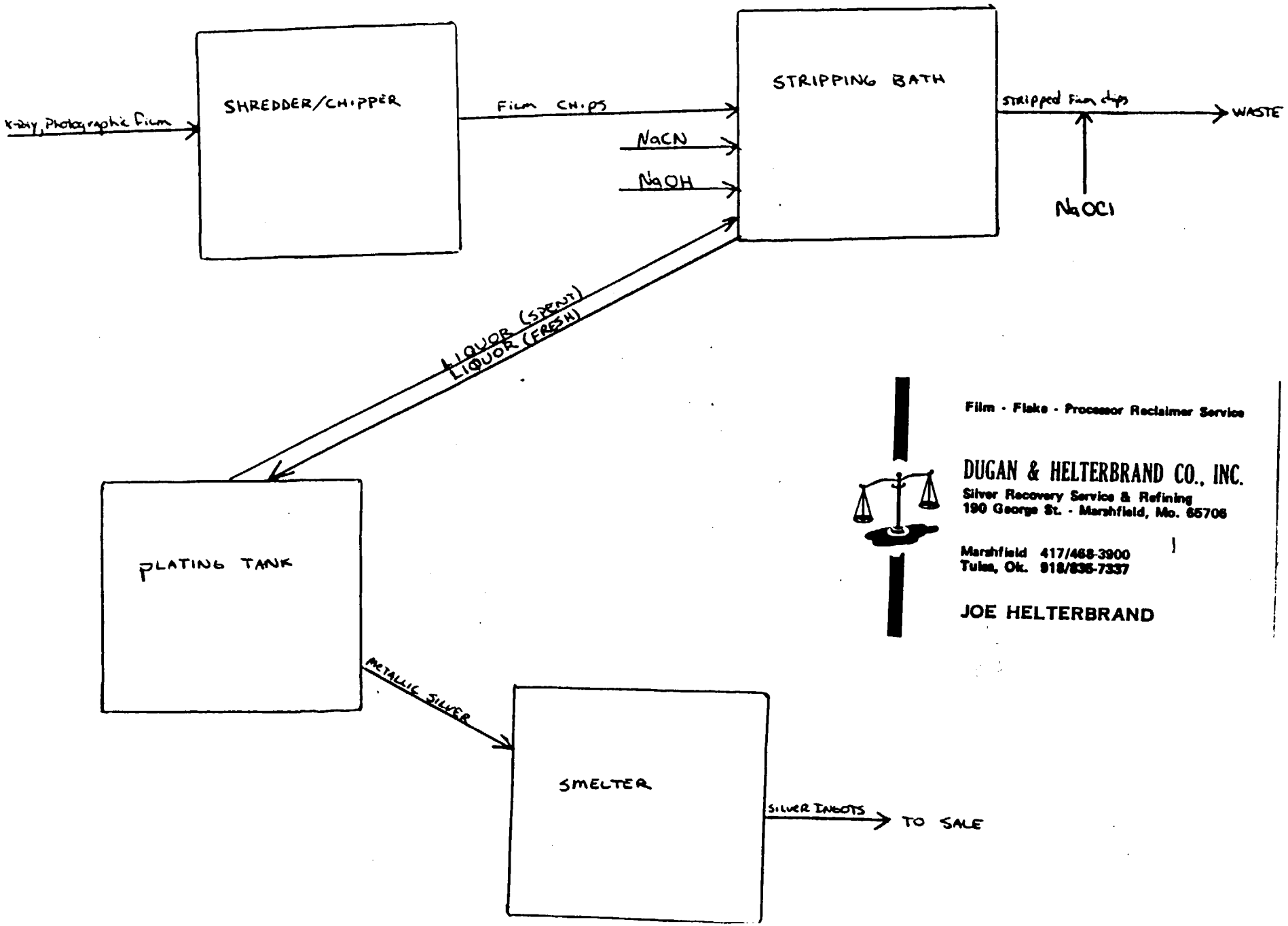
1) If the pending waste analysis comes up hazardous, then Dugan and Helterbrand may be a treatment facility because they are rendering a cyanide bearing waste nonhazardous by applying sodium hypochlorite.

2) Since Dugan and Helterbrand is recycling a waste from small quantity generators, they should obtain resource recovery certification. By obtaining resource recovery certification, this may preclude them from becoming a TSDF.

3) If the neutralized waste film chips turn out to be hazardous by nature of being EP-Toxic or reactive, Dugan and Helterbrand will become a hazardous waste generator. In addition, the Webster County Sanitary Landfill will become a Superfund site.

If you care to discuss this further, please contact me.

cc Mr. Tom Gredell



Film - Flake - Processor Reclaimer Service

DUGAN & HELTERBRAND CO., INC.

Silver Recovery Service & Refining
190 George St. - Marshfield, Mo. 65706

Marshfield 417/468-3900
Tulsa, Ok. 918/836-7337

JOE HELTERBRAND

TANK CONFIGURATION and LIQUID RECYCLE FLOW

Dugan and Helterbrand
MARSHFIELD, MO